

ORTHOPEDIC FOUNDATION FOR ANIMALS, INC.

CHRISMILL'S DELTA QUEEN  
*registered name*

LABRADOR RETRIEVER  
*breed*

C061196  
*film/test/lab #*

977200009641166  
*tattoo/microchip/DNA profile*

2158608  
*application number*

04/15/2021  
*date of report*

**RESULTS:**

**NORMAL: NO EVIDENCE OF CONGENITAL OR ADULT ONSET INHERITED HEART DISEASE --  
AUSCULTATION & ECHO (NOTE: THE CONGENITAL CLEARANCE IS CONSIDERED PERMANENT;  
ADULT ONSET CLEARANCE VALID FOR 1 YEAR FROM TEST DATE 01/31/2021.)**

SS16028801  
*registration no.*

F  
*sex*

12/05/2019  
*date of birth*

13  
*age at evaluation in months*



A Not-For-Profit Organization

LR-ACA2704/13F-VPI  
*O.F.A. NUMBER*

*This number issued with the right to correct or  
revoke by the Orthopedic Foundation for Animals.*

**NORMAL AO/CONG, AUSC/ECHO**

**owner**  
MARY ANN FLETCHER  
2003 W 7TH ST  
WILMINGTON DE 19805

OFA eCert



Verify certificate  
with QR scan

G.G.KELLER, D.V.M., M.S., DACVR  
CHIEF OF VETERINARY SERVICES

[www.ofa.org](http://www.ofa.org)

This electronic OFA certificate was generated on: 04/15/2021

This certification can be verified on the OFA website by entering the dog's registration number into the orange search box located at the top of the page or by scanning the QR code above.

If there are any errors on this certificate, please email [CORRECTIONS@OFFA.ORG](mailto:CORRECTIONS@OFFA.ORG) to request a correction.

Orthopedic Foundation for Animals, Inc.  
2300 E. Nifong Blvd.  
Columbia, MO 65201-3806

OFA website: [www.ofa.org](http://www.ofa.org)  
E-mail address: [ofa@offa.org](mailto:ofa@offa.org)  
Phone number: 573-442-0418  
Fax number: 573-875-5073

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Phone number: 573-442-0418  
Fax number: 573-875-5073

## Canine Genetic Health Certificate™

<b>Call Name:</b>	Delta	<b>Laboratory #:</b>	215072
<b>Registered Name:</b>	Chrismill's Delta Queen	<b>Registration #:</b>	SS16028801
<b>Breed:</b>	Labrador Retriever	<b>Microchip #:</b>	977200009641166
<b>Sex:</b>	Female	<b>Certificate Date:</b>	Feb. 3, 2021
<b>DOB:</b>	Dec. 2019		

**This canine's DNA showed the following genotype(s):**

Disease	Gene	Genotype	Interpretation
Centronuclear Myopathy	<i>PTPLA</i>	WT/WT	Normal (clear)
Degenerative Myelopathy	<i>SOD1</i>	WT/WT	Normal (clear)
Exercise-Induced Collapse	<i>DNM1</i>	WT/WT	Normal (clear)
Hereditary Nasal Parakeratosis	<i>SUV39H2</i>	WT/WT	Normal (clear)
Macular Corneal Dystrophy (Labrador Retriever Type)	<i>CHST6</i>	WT/WT	Normal (clear)
Progressive Retinal Atrophy, Progressive Rod-Cone Degeneration	<i>PRCD</i>	WT/WT	Normal (clear)
Retinal Dysplasia/Oculoskeletal Dysplasia 1	<i>COL9A3</i>	WT/WT	Normal (clear)
Skeletal Dysplasia 2	<i>COL11A2</i>	WT/WT	Normal (clear)

WT, wild type (normal); M, mutant; Y, Y chromosome (male)



**Helen F Smith, PhD**  
 Assistant Laboratory Director



**Christina J Ramirez, PhD, DVM, DACVP**  
 Medical Director

Paw Print Genetics® performed the tests listed on this dog. See the Laboratory Report for interpretation and recommendations based on these findings. The genes/diseases reported here were selected by the client. Normal results do not exclude inherited mutations not tested in these or other genes that may cause medical problems or may be passed on to offspring. These tests were developed and their performance determined by Paw Print Genetics. This laboratory has established and verified the tests' accuracy and precision. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think these results are in error, please contact the laboratory immediately for further evaluation. In the event of a valid dispute of results claim, Paw Print Genetics will do its best to resolve such a claim to the customer's satisfaction. If no resolution is possible after investigation by Paw Print Genetics with the cooperation of the customer, the extent of the customer's sole remedy is a refund of the fee paid. In no event shall Paw Print Genetics be liable for indirect, consequential or incidental damages of any kind. Any claim must be asserted within 60 days of the report of the test results. Genetic counseling is available at Paw Print Genetics.

## Coat Color and Trait Certificate

<b>Call Name:</b>	Delta	<b>Laboratory #:</b>	215072
<b>Registered Name:</b>	Chrismill's Delta Queen	<b>Registration #:</b>	SS16028801
<b>Breed:</b>	Labrador Retriever	<b>Microchip #:</b>	977200009641166
<b>Sex:</b>	Female	<b>Certificate Date:</b>	Feb. 3, 2021
<b>DOB:</b>	Dec. 2019		

**This canine's DNA showed the following genotype(s):**

Coat Color/Trait Test	Gene	Genotype	Interpretation
B Locus (Brown)	<i>TYRP1</i>	B/b	Black coat, nose and foot pads (carries one copy of brown)
D Locus (Dilute)	<i>MLPH</i>	D/D	Non-dilute (does not carry dilute)
E Locus (Yellow/Red)	<i>MC1R</i>	E/E	Black
L Locus (Long Hair/Fluffy) - Lh <sup>1</sup> (Common Variant - Corgi, Labrador, Chesapeake Bay Retriever, Others)	<i>FGF5</i>	Sh/Sh	Shorthaired (does not carry long hair)

**Interpretation:**

This dog carries one copy of one of the **b** mutations and has a B locus genotype of **B/b**. Thus, this dog typically will have a black coat, nose, and foot pads. However, this dog's coat color is dependent on the genotypes of many other genes. This dog will pass one copy of **B** to 50% of its offspring and one copy of **b** to 50% of its offspring. This dog can produce b/b offspring if bred to a dog that is also a carrier of a b mutation (B/b or b/b). Depending on the breed, b/b dogs may be referred to as brown, chocolate, liver or red.

This dog does not carry any copies of the **d<sup>1</sup>** or **d<sup>2</sup>** mutations and has a D locus genotype of **D/D** which does not result in the "dilution" or lightening of the pigments that produce the dog's coat color. This dog will pass one copy of **D** to 100% of its offspring and cannot produce d/d dogs.

This dog carries two copies of **E** which allows for the production of black pigment. However, this dog's coat color is also dependent on the K, A, and B genes. This dog will pass on **E** to 100% of its offspring.

This dog carries two copies of **Sh** which results in short hair. This dog will pass on **Sh** to 100% of its offspring.

Paw Print Genetics® has genetic counseling available to you at no additional charge to answer any questions about these test results, their implications and potential outcomes in breeding this dog.



**Helen F Smith, PhD**  
Assistant Laboratory Director



**Christina J Ramirez, PhD, DVM, DACVP**  
Medical Director

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